SYSTEM AND METHOD FOR ADAPTIVE PRUNING

ABSTRACT

Disclosed in a method and structure for searching data in databases using an ensemble of models. First the invention performs training. This training orders models within the ensemble in order of prediction accuracy and joins different numbers of models together to form sub-ensembles. The models are joined together in the sub-ensemble in the order of prediction accuracy. Next in the training process, the invention calculates confidence values of each of the sub-ensembles. The confidence is a measure of how closely results form the sub-ensemble will match results from the ensemble. The size of each of the sub-ensembles is variable depending upon the level of confidence, while, to the contrary, the size of the ensemble is fixed. After the training, the invention can make a prediction. First, the invention selects a sub-ensemble that meets a given level of confidence. As the level of confidence is raised, a sub-ensemble that has more models will be selected and as the level of confidence is lowered, a sub-ensemble that has fewer models will be selected. Finally, the invention applies the selected sub-ensemble, in place of the ensemble, to an example to make a prediction.

16